

REMARKS

Amendment to Claim 1

Claim 1 was amended to recite that the rows of hook-shaped semi-blind grooves are laterally spaced from each other, indicating that the rows of the grooves do not overlap. Support for this amendment is found on page 3, lines 5-8 and in the Figures.

35 U.S.C. §112, second paragraph

Claims 1-13 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The claims have been amended to provide proper antecedent basis for the claimed elements and to clarify the recited invention.

35 U.S.C. § 102(b), 35 U.S.C. 103(a)

Benson et al.

Claims 1, 3 and 8-10 have been rejected under 35 U.S.C. § 102(b) as anticipated by Benson et al (U.S. 3,012,599. This rejection is respectfully traversed for the following reasons.

Claim 1 has been amended to recite that the first and second rows of hook shaped grooves are laterally spaced from each other. The grooves of Benson et al are not so spaced but instead are overlapping.

As Benson et al. fails to anticipate the invention as recited in claims 1, 3 and 8-10, it is respectfully requested that this rejection be withdrawn.

Verdier

Claims 1-3 and 8-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Verdier (U.S. 3,682,220). This rejection is respectfully traversed for the following reasons.

Fig. 3 of Verdier is used as the basis of the rejection of Applicants' claims. The central rib in Verdier's tread has a plurality of spaced, opposed blind lateral grooves. In distinction from the present claims reciting only a single blind portion, the grooves of Fig. 3 have two blind portions, and are described by Verdier as a Y-shaped groove (col 3; lines 3-4).

Additionally, while Verdier discloses that the grooves should be crosswise, i.e. inclined oblique or perpendicular (col 2, lines 46-48), only the blind ends of the grooves are inclined. In describing the tread of Fig. 3, the center blind grooves 36 are termed as “crosswise (non-longitudinal)” while the blind grooves 37 in the tread edge, identical in configuration to the grooves 36, are termed “transverse (non-longitudinal)” (col 4, lines 3-10). The tread of Fig. 5 is disclosed as having “cross (non-longitudinal) grooves” (col 4, lines 43-50). If the entire grooves is inclined obliquely, it is unknown how this oblique angle would be determined. Presumably, the blind leaf shaped groove could be inclined, but that fails to result in a two portion groove wherein a centerline bisecting the two portions would be inclined, as recited.

As Verdier fails to anticipate the invention as recited in claims 1, 3 and 8-10, it is respectfully requested that this rejection be withdrawn.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verdier (U.S. 3,682,220) in view of Fukumoto et al (U.S. 5,833,781).

As noted above, Verdier fails to limit disclose a single blind portion to the groove, teaching only a variation of a leaf shaped groove or a Y-shaped groove.

Fukumoto fails to remedy this deficiency.

Mirtain et al

Claims 1-3 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mirtain et al (U.S. 4,387,754) in view of Verdier (U.S. 3,682,220). This rejection is now moot due to the amendments to claim 1.

Mirtain specifically teaches that all the inclined grooves in the ribs are to cross a circumferential centerline of the rib by a distance of $\frac{1}{2}$ to $\frac{2}{3}$ of half the width of the rib (col 2, lines 58-62). Verdier specifically teaches that the grooves do not overlap to “ensure circumferential rigidity of the center ridge ... which favors a quite rolling of the tire and better resistance to wear and tear” (col 2, lines 38-46). This is contrary to the specific teachings of Mirtain.

Additionally, Verdier has been applied to illustrate modifying the blind end of the grooves of Mirtain, though it is noted that Verdier has given no motivation for choosing the Y-shaped blind ends of Fig 3 or 5 over the straight blind groove of Fig 1. Regardless of the lack of motivation to combine to modify the blind groove shape, Verdier teaches forming

multiple blind portions, not a single blind portion as recited.

Under the standard for obviousness under 35 U.S.C. 103, there must be a suggestion or motivation in the prior art to combine references. Herein, there is no motivation to combine as the teachings of Mirtain are contrary to those of Verdier. Additionally, even if combinable, Mirtain modified with Verdier results in a groove with multiple blind ends; failing to disclose all the claimed elements and failing to establish *prima facie* obviousness. It is requested that this rejection be reconsidered and withdrawn.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mirtain et al (U.S. 4,387,754) in view of Verdier (U.S. 3,682,220) as applied above and further in view of Fukumoto et al (U.S. 5,833,781).

Mirtain as modified by Verdier fails to teach or suggest all the limitations of claim 1; a deficiency which is not cured by Fukumoto, thus failing to establish *prima facie* obviousness. It is requested that this rejection be withdrawn.

Europe '448

Claims 1, 3 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Europe '448 (EP 231448) in view of Verdier (U.S. 3,682,220).

Europe '448 discloses a tire with a rib grooves have an open portion and a single blind portion. However, a line that bisects the two portions is not inclined obliquely to the tread centerplane, but is instead parallel to the centerplane.

Verdier is applied to as "it would have been obvious to one of ordinary skill in the art to shape the blind transverse grooves as obliquely inclined hook shaped semi-blind grooves" (office action, pg 8). However, Verdier fails to specify what portions of the grooves are to be inclined oblique or horizontal – the open portion or the blind portions or the overall inclination of the groove (in which case such a method is not disclosed). Presumably, the blind leaf shaped groove could be inclined, but that fails to result in a two portion groove as recited. . If only the blind portions of the grooves of EP '448 are to be inclined as taught by Verdier, EP '448 already teaches such a feature, and is not further modified by Verdier in this respect. Additionally, if it is the open portion of the EP '448 groove which is to be so inclined, EP '448 already teaches such a feature and does not further benefit from the teachings of Verdier, as every illustrated example of Verdier shows a perpendicular open portion for the blind groove.

The best that can be said for modifying EP '448 with Verdier is to then form the grooves of EP '448 as Y-shaped. However, such a configuration appears to then possibly destroy the teachings by EP '448 regarding a dimension b and a desired overlap of the opposing grooves.

Additionally, EP '448 specifically teaches overlapping the rows of blind grooves, contrary to that recited. While Verdier teaches no overlapping, to so modify EP '448 would specifically be contrary to the teachings of EP '448 and negates any motivation to combine these references.

As EP '448 as modified by Verdier lacks motivation to combine and fails to teach or disclose each and every claimed element, the rejection fails under 35 U.S.C. § 103 and it is requested that this rejection be withdrawn.

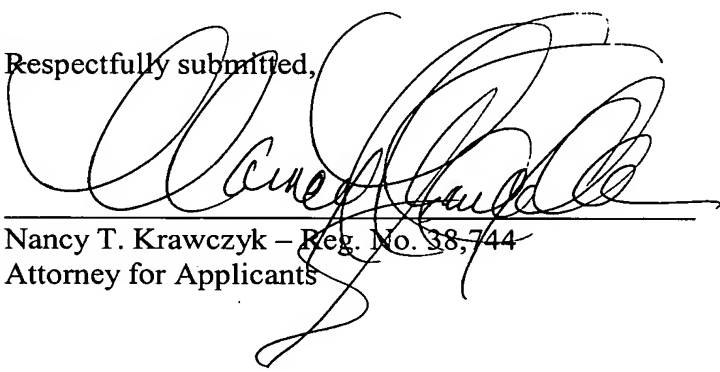
Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Europe '448 (EP 231448) in view of Verdier (U.S. 3,682,220) as applied above and further in view of Minami (U.S. 5,526,860).

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Europe '448 (EP 231448) in view of Verdier (U.S. 3,682,220) and Minami (U.S. 5,526,860) as applied above and further in view of Hitzky (EP640498)

The basis for these rejections, EP '448 modified by Verdier, fails to render obvious independent claim 1 and thus also fails to render obvious any dependent claims. It is requested that these claims be withdrawn.

In light of this amendment, all of the claims now pending in the subject patent application are allowable. Thus, the Examiner is respectfully requested to allow all pending claims.

Respectfully submitted,



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